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(56) Documents Cited

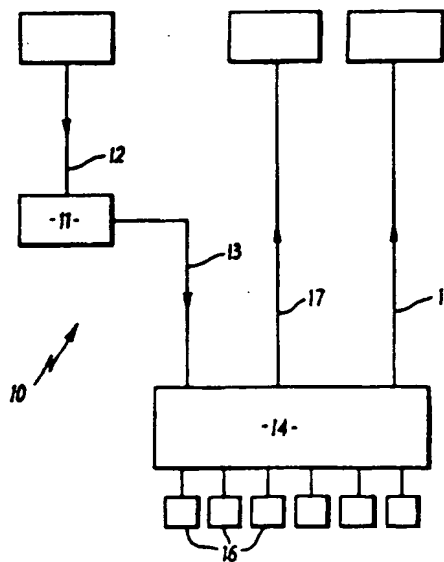
**GB 2270443 A    EP 0588101 A2    EP 0539102 A2  
EP 0455912 A2    WO 91/03137 A1    US 5260986 A  
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(58) Field of Search

**UK CL (Edition O ) H4K KBHE KF50C  
INT CL<sup>6</sup> H04M**

(54) **Telephone answering and diary system**

(57) A telephone answering system and diary system (10) comprising a diversion (11) to divert calls from a first telephone line to a second telephone line linked to an answering device (14). The answering device has multiple answer stores (16) in which messages can be stored. Each answer store (16) can have a greetings message associated therewith and each answer store can have a different greetings message corresponding to a different use. Each answer store (16) has an identification in the form of a numeral which a user needs to use to select the desired answer store by pressing the appropriate buttons on his telephone. A further security identifier can also be associated with the answer store to prevent unauthorised access to the answer store. The system (10) can also be used to store information relating to a particular event and a date, time and telephone number relating to this event. The system is then operable at the date or time specified to call the user and relay the date relating to the event to the user. Thus a user can be reminded of for example, birthdays, important meetings etc. by the system calling the user on a specified telephone number.

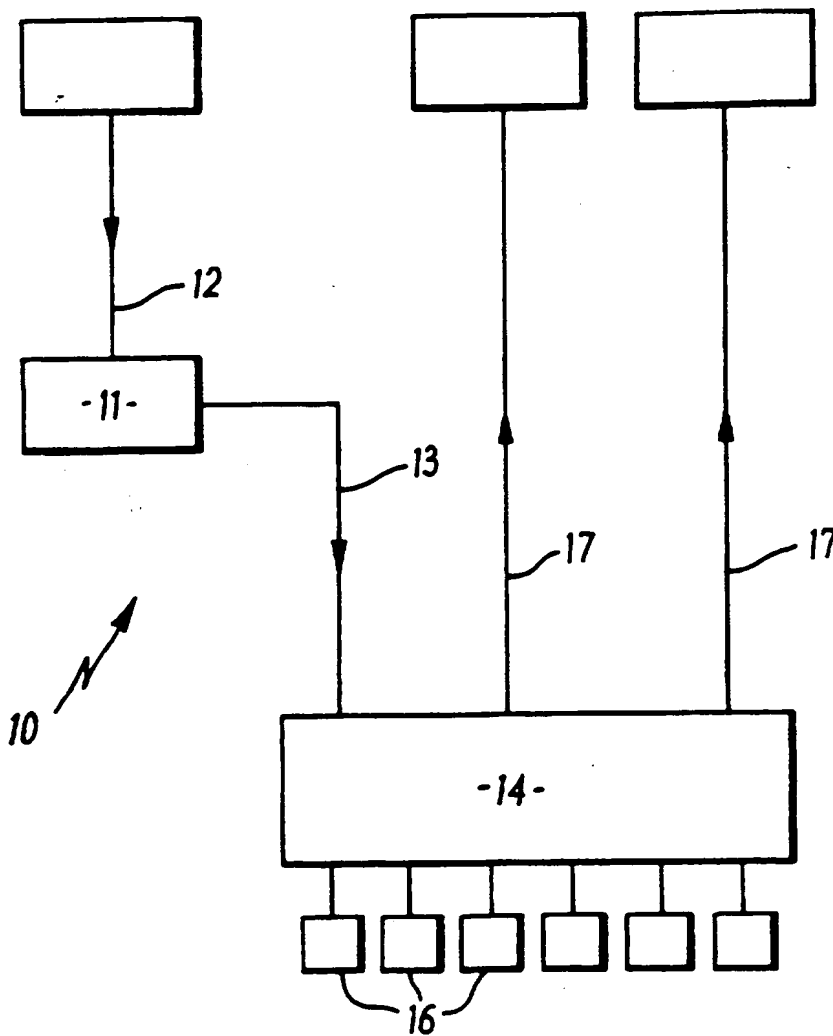


**FIG. 1**

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy. The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995. This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995.

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**FIG. 1**

Call received

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Greeting message given and phone tested

Set-up of messages and identifiers for mailboxes

Optional playback of messages

FIG. 2

Call received

Help given to caller

Access to mailbox given

Information given

Mailbox

FIG. 3

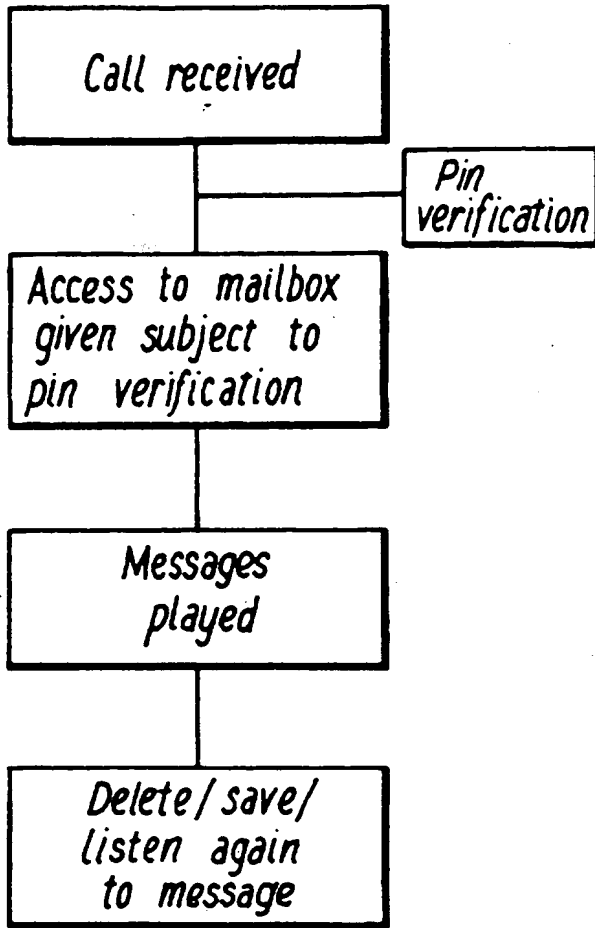


FIG. 4

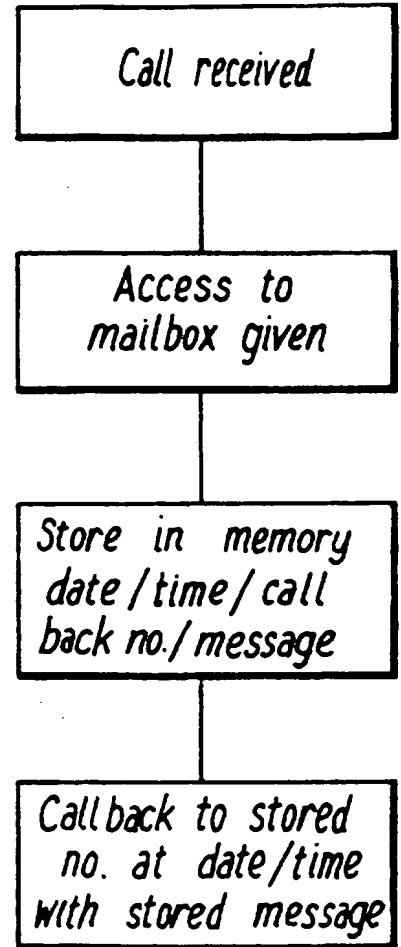


FIG. 5

TELEPHONE ANSWERING AND DIARY SYSTEM

This invention relates to a telephone answering and diary system.

Conventional telephone answering systems usually allow a message to be recorded by a person and then when the system is activated, upon a call being received, the recorded message is played back to a caller, who is invited to leave a message. After the instruction has been given to the caller, a suitable recording mechanism is activated upon which the caller's message is stored. On some telephone answering systems, information relating to the date and time of the call is stored additionally with the record message. The answering system then provides a person with an indication that calls have been received and that messages are stored which they should listen to.

It is an object of the present invention to provide a telephone answering and diary system which is capable of greater flexibility and furthermore also allows a greater change of interaction between both the user and the caller and answering and diary system.

According to a first aspect of the present invention therefore there is provided a telephone answering system for answering calls on a first telephone line, said system including user selective diversion means to divert the call along a second telephone line, answering means linked to said second telephone line to play a recorded message to a caller and to store a message left by a caller, said answering means comprising multiple answer stores having identifiers associated therewith, each said answer store being

capable of playing a different recorded message and said identifiers can be selected by user interaction with the system whereby a call can be answered by a selected one of said stores.

5 With this arrangement it is possible to provide a more flexible and interactive telephone answering system.

Preferably, each said answering store may have associated therewith a second security identifier whereby access to messages stored in said answer store can only be gained by a person providing the system with a correct security identifier.

10 Preferably said system may also be operable to allow storage in said answer stores of one or more telephone numbers whereby the system can telephone a user on a selected one of said numbers to advise them of any recorded messages in said stores. It may also be possible to allow additional data relating to a time of day or day of week or date to be associated with  
15 one or more of said numbers whereby said selected telephone number will be the one at which a user is most likely to contacted.

20 Preferably the system is also operable to allow storage of multiple messages by a user with said additional data, said system calling back said user and playing one or more said recorded messages at the appropriate time, day of the week, date, etc.

According to a second aspect of the present invention therefore there is provided a telephone diary system comprising a telephone answering system for answering calls on a first telephone line, whereby a caller can

store one or more messages and associated data relating to a time or date in at least one answer store, said system being operable to call back said caller at a time and/or date defined by the data and to play one or more said messages stored by the caller associated with such data.

5           The second aspect of the invention may have some or all of the features of the first aspect.

The invention will now be described further by way of example only and with reference to the accompanying drawings of which:-

10           Fig. 1 shows a schematic representation of one form of system in accordance with the present invention;

Figs. 2 to 5 show flow chart representations of different operations of the system.

15           Referring now to Fig. 1, there is shown a telephone answering and diary system 10 comprising a diversion means 11 to receive a call along a first telephone line and direct the call along a second telephone line to an answering means 14. The answering means comprises multiple answer stores 16 in which various data of the type to be hereinafter described can be stored. The answering means 14 has access to one or more further  
20           telephone lines <sup>17</sup>12 by which data stored in the answer stores 16 can be played back to a selected one of one or more additional telephones. In the context of this specification a telephone line is to be understood as meaning any link by which messages or data can be transmitted between telephones

or any other communication means, e.g. telex, fax, computer with modem, etc.

The system will be described in more detail by reference to its mode of operation which is illustrated in flow chart form in Figs. 2. to 5.

5           When a user subscribes to the system, he is given a telephone number which corresponds to the number of the second telephone line mentioned above. The user then arranges for his personal telephone line, which corresponds to the first telephone line mentioned above, to incorporate a call diversion device 11 whereby if the device 11 is activated,  
10           calls to the user's personal number can be diverted to the number of the second telephone line. Before the system can be operational, however, it is necessary for the user to record any messages or other data which it is required to be stored in the answer stores 16. This is achieved as shown in Fig. 2. Thus the user calls the number of the second telephone line and  
15           the call is answered by the system to greet a user and a suitable greetings message is given to the user. This greetings message is stored in the main answering means and not in answer stores 16. The system will then interrogate the user's telephone via the second telephone line to ensure that the telephone and other factors are compatible with operation of the system.

20           Once the telephone has been determined to be compatible with the system then the user is invited to select one of the answer stores 16 by use of an identifier which is associated with this answer store and which will be in the preferred embodiment of the invention, the numerals 0, 1-9. Thus



when invited to select an answer store 16, the user will press the button on his telephone corresponding to the identifier for the store 16 which they wish to access. The user will then be invited to select one of a number of options available to them to carry out operations in relation to the answer store 16 selected, for example store a message to be played to callers who access that answer store 16 (in a manner to be hereinafter described). Once, for example, a message has been recorded, further options are provided to the user, for example to listen to the message, to re-record it or to save it. All of these options are selected by user interaction with the system by using the buttons on the telephone. The final set-up operation is that the system asks the user to insert a name so that this can be used when the system is interacting in the future with the user. This operation can then be carried out for each answer store 16 until all of those, or as many as desired, are set up. Once the answer stores 16 are set up then the user can exit the system by hanging up the telephone and the system is ready to be activated at any time.

Thus, if, for example, a user is leaving the premises at which they are usually available to answer the telephone, the system can be activated by activating the diversion means 11 to direct calls along the second telephone line. Therefore when a caller dials the number of the first telephone line, the call is diverted along the second telephone line and the system responds as shown in Fig. 3. Once a call is received by the system, the caller is provided with a number of options (i) to access a help system which will provide the

caller with assistance as to how to leave a message or carry out any other allowed operation, (ii) to be provided with information about the system and where they can obtain it should they wish to do so, or (iii) a list of the answer stores 16 along with the associated identifiers to assist their selection of the appropriate store 16 to leave the message.

The caller selects one option by interacting with the system using the buttons on his telephone and more particularly can access a specified answer store 16 to leave a message by pressing the button on the telephone corresponding to the identifier for that answer store 16. When a caller has accessed an answer store 16, they are provided with a message which has been recorded by the user and which may be specific to that answer store 16 and the caller is invited to leave a message. The caller's message is then recorded and stored in the answer store 16. Along with the message given by the caller, additional data can also be stored such as the time the message is left, the date the message was left, the telephone number of the caller, etc. Once a message has been left, the caller can then put down the telephone.

If a user of the system wishes to listen to messages which have been received by the system for them, the system can be operated as shown in Fig. 4.

The user accesses the system in a like manner as in the previous examples and gains access to the answer stores 16 in which messages they wish to listen to are stored. In the embodiment described, each answer

store 16 is protected by a personal identification number (PIN) which can be any suitable number which must be input into the system prior to a user being allowed access to the answer store 16. Each answer store 16 may be protected by a different PIN or a group of answer stores may be protected by a single PIN. The PIN can be chosen and stored by the user at the same time as recording the message for the answer store 16 or may be chosen and stored subsequently. Thus the user may be asked to enter a PIN and when he has provided the system with a correct PIN, any messages and other data stored in the answer store 16 are played back to them and given to them. Once the user has received the messages, the system gives them the option of saving the messages/deleting the messages or re-listening to the messages. This choice is made by the user using the buttons on their telephone. Once the user has completed listening to any messages, he simply puts the telephone down to exit the system.

Alternatively, rather than the user being required to access the system to locate the messages left for them, the system is provided with access to telephone lines whereby the system can be operable to call the user on a predetermined telephone number (which may or may not be that of the second telephone line) to relay any messages and other data to them. This is illustrated schematically in Fig. 5. After accessing the system in the manner shown in Fig. 2, the system would additionally ask the user to input into the answer store 16 information relating to the destination to which the messages and other data is to be sent, for example a telephone number to

which the information can be sent, along with information relating to the time and/or date the information is to be sent. If desired, a number of different numbers can be used which can be used for different dates and/or times and the system may select the most appropriate one for a particular time or date when the information is required.

In a preferred embodiment of the invention, the answering system can also be used as a telephone diary system. Thus, it is possible for an answer store 16 to have messages left by the user which relate to recurring events such as birthdays, anniversaries or appointments and the system can be operable to call a user on the date and time requested to remind the user of the necessity to perform a particular task. Such a system could form the basis of an appointments diary or birthday diary.

Thus, for example, it is possible for a user to store in answer store 16, a series of recurring dates with an appropriate message such as "Mum's Birthday" or "Wedding Anniversary" and associated with such information a telephone number at which a user can be contacted. The system can operate to call the user on the respective associated telephone number on the respective date and pass the stored message on to them, appropriate to that date. Thus a user can set up a diary of recurring dates of which he can be reminded by a suitable stored message sent to him by the system on that date. Additionally or alternatively, a series of times can be stored along with an associated telephone number and stored message such as "Meeting with Tony" or "ABC Plc here". In these circumstances the system can operate

to call the user back at the respective time to remind them of the stored messages, i.e. appointments at the appropriate time.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

**CLAIMS**

1. A telephone answering system for answering calls on a first telephone line, said system including user selective diversion means to divert the call along a second telephone line, answering means linked to said second telephone line to play a recorded message to a caller and to store a message left by a caller, said answering means comprising multiple answer stores having identifiers associated therewith, each said answer store being capable of playing a different recorded message and said identifiers can be selected by user interaction with the system whereby a call can be answered by a selected one of said stores.
2. A telephone answering system according to claim 1, wherein each said answering store has associated therewith a second security identifier whereby access to messages stored in said answer store can only be gained by a person providing the system with a correct security identifier.
3. A telephone answering system according to claim 1 or claim 2, wherein said system is further operable to allow storage in said answer stores of one or more telephone numbers whereby the system can telephone a user on a selected one of said numbers to advise them of any recorded messages in the stores.
4. A telephone answering system according to claim 3, wherein additional data relating to a time of day or day of a week or date is associated with one or more of said numbers whereby said selected telephone number will be the one at which a user is most likely to be contacted.
5. A telephone answering system according to claim 4, wherein the system is operable to allow storage of multiple messages by a user with said additional data, said system calling back said user and playing one or more said recorded

messages at the appropriate time, day of the week, date, etc.

6. A telephone answering system comprising a telephone answering system for answering calls on a first telephone line, whereby a caller can store one or more messages and associated data relating to a time or date in at least one answer store, said system being operable to call back said caller at a time and/or date defined by the data and to play one or more said messages stored by the caller associated with such data.

7. A telephone answering system according to claim 3 substantially as hereinbefore described with reference to the accompanying drawings.

8. A telephone diary system according to claim 6 substantially as hereinbefore described with reference to the accompanying drawings.



Application No: GB 9515281.5  
Claims searched: 1-5

Examiner: Al Strayton  
Date of search: 24 October 1996

Patents Act 1977  
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
UK CI (Ed.O): H4K: KBHE; KF50C  
Int CI (Ed.6): H04M  
Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
Y	GB 2 270 443 A (O'NEILL) See esp. p.4, 1.33 - p.5, 1.18	4,5
X,Y	EP 0 588 101 A2 (ROLM) See esp: col.5, ll.41-47; col.15, 1.35 - col.16, 1.30	1,2 (X) 3,4,5 (Y)
X,Y	EP 0 539 102 A2 (ATT) See the abstract	1 (X) 2-5 (Y)
X,Y	EP 0 455 912 A2 (ATT) See esp. col.9, 1.57 - col.10, 1.9	1 (X) 2-5 (Y)
Y	WO 91/03137 A1 (TELECOM SECURICOR) See the abstract	3,5
Y	US 5 260 986 (PERSHAN) See esp. col.3, 1.4 - col.4, 1.15	3,5
Y	US 5 247 568 (BERGSMAN...) See the abstract	3-5

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.